Contains NO CBI

RHÔNE-POULENC

RHÔNE POULENC INC.
CN 7500, CRANBURY, NJ 08512-7500
TELEPHONE: (609) 395-8300

(A)

8EHQ-92-12611
88920010794
INIT

October 23, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 713 002 218

Document Processing Center (TS-790)
Attn: Section 8(e) Coordinator (CAP Agreement)
Office of Toxic Substances
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

RE: Report Submitted Pursuant to the TSCA Section 8(e) Compliance Audit Program

CAP ID NO.: 8ECAP - 0004

RP CAP REPORT NO.: RPS - 0209

Dear Sir/Madam:

On behalf of Rhône-Poulenc Inc. (RPI, CN5266, Princeton, NJ 08543-5266) and its subsidiaries, the attached report is being submitted to the Environmental Protection Agency (EPA) pursuant to the Toxic Substances Control Act (TSCA) Section 8(e) Compliance Audit Program (CAP Agreement) executed by RPI and EPA (8ECAP - 0004).

The enclosed report provides information on the following chemical substances:

Product Name:	Grade E Sodium Tripolyphosphate
CAS Registry No:	7758-29-4
CAS Registry Name:	Triphosphoric acid, pentasodium salt
pH:	9.8 for 1% solution
Product Name:	Sodium Silicate
CAS Registry No.:	1344-09-8
CAS Registry Name:	Silicic acid, sodium salt
pH:	Not Known
Product Name	Crystamet
CAS Registry No.:	10213-79-3
CAS Registry Name:	Silicic acid, disodium salt, pentahydrate
pH:	12.4 for 1% solution

RECEIVED
3/8/95

The title of the enclosed report is:

Comparative Toxicology Study of Disilicates

The following is a summary of the adverse effects observed in this report.

Sodium silicate (2.0 ratio and 2.4 ratio) were severely irritating to eyes and skin. In the eye irritation study, the 2.0 ratio produced severe iritis and conjunctivitis and corneal opacity with formation of scar tissue. Less severe irritation was observed with the 2.4 ratio, and evidence of reversibility was noted. In the skin irritation study, the 2.0 ratio produced severe, irreversible irritation at intact sites while the 2.4 ratio caused moderate, reversible irritation at intact sites. Crystamet was corrosive to skin and eyes but the effect would be expected based on the pH of the product. Sodium tripolyphosphate was moderately irritating to the skin only.

RPI does not claim any portion of the information in this submission to be TSCA confidential business information (TSCA CBI).

RPI has not previously submitted any TSCA Section 8(e) notices or premanufacture notification on the subject chemical substance.

In total, RPI is submitting three copies of the enclosed report and this cover letter: an original and two copies.

Further questions regarding this submission may be directed to Dr. Glenn S. Simon, Director of Toxicology at (919)549-2222 (Rhône-Poulenc, P.O. Box 12014, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709).

Sincerely,

Charles E. Moyer, Jr., Ph.D.
Director, Product Safety
(609)860-3589

CEMjr/mm
Enclosures

BEGIN REPORT

T-1715

Stauffer CHEMICAL

INTER-OFFICE CORRESPONDENCE

CONFIDENTIAL

WESTERN RESEARCH CENTER

New York

O. Overman

J. F. Heil
J. R. Pfann

F. X. Kamienski

5/17/71

COMPARATIVE TOXICOLOGICAL STUDY OF DISILICATES

Toxicity studies have been completed on the 2.0 and 2.4 ratio hydrous silicates, sodium tripolyphosphate and CRYSTAMET. A copy of this report is attached.

As you requested, the disilicate samples were corrected for their moisture content and tested on an equivalent anhydrous basis. CRYSTAMET was tested earlier as the hydrated material; however the oral toxicity values are corrected for moisture content and represent the equivalent anhydrous material. The CRYSTAMET results are included in this report for comparative purposes.

Autopsy results for the acute oral toxicity studies are not available because of the required 14 day observation period. They will be reported in about two weeks.

F. X. Kamienski

F. X. Kamienski

FXK:ea

CONFIDENTIAL

TOXICOLOGY REQUEST FORM

T-No. 1715

Project No. 70 0110

Compound (3) SODIUM DISILICATE - HYDROUS Date 5-5-71

Identification (lot, batch, etc.) 4/71 ALL

Use (insect., herbicide, etc.) INDUSTRIAL CLEANING COMPONENT

STRUCTURE

(1) RATIO 2.0 SiO_2 : 1.0 Na_2O 19.5% WATER

(2) RATIO 2.4 SiO_2 : 1.0 Na_2O 19.5% WATER

(3) Sodium TRI POLYPHOSPHATE - ANHYDROUS

Purity (%)_____

by (IR, m.p., etc)_____

Known Impurities_____

Complete for formulations:

Per cent technical_____

solvent _____

per cent _____

Check and Complete:

- [x] Acute oral toxicity - species ♂ RAT
- [x] Acute dermal toxicity - rabbits
- [x] Primary skin irritation (Industrials) - rabbits
- [x] Acute eye irritation - rabbits
- [ ] Other (specify)_____

Report Distribution HEIL, MEYDING, RIGGS - PFANN

(H.W. PERRAULT, P.O. PETERSON, R.J. DILKS.)

Remarks ORALS 5-5 & 5-6, DERMALS & OCULARS 5-10 & 5-11-/ DRAIZE & OCULAR REPORTS 5-14 + ORAL & ACUTE DERMAL PRELIMINARY. FINAL REPORTS ON ACUTES BY 5-26-71.

265-19-220-10-69-5M

Requested By J.R. PFANN N.Y.

SAMPLES FROM: J.S. STEINREICH WATERWAY

CONFIDENTIAL

STAUFFER CHEMICAL COMPANY

WESTERN RESEARCH CENTER

COMPANY CONFIDENTIAL

TOXICOLOGY LAB REPORT T-1715

May 13, 1971

2.0 Ratio Sodium Silicate
2.4 Ratio Sodium Silicate
Sodium Tripolyphosphate
CRYSTAMET

I. Objective

To evaluate the acute oral and dermal toxicity, and the skin and eye irritation properties of 2.0 ratio sodium silicate, 2.4 ratio sodium silicate, anhydrous sodium tripolyphosphate, and CRYSTAMET.

II. Materials

A. 2.0 ratio sodium silicate - 19.5% water.

B. 2.4 ratio sodium silicate - 19.5% water.

C. "E" grade sodium tripolyphosphate - anhydrous.

These three test materials were received from Waterway on May 5, 1971.

D. CRYSTAMET -- sodium metasilicate with 5 molecules of hydration water (42.4% water) was received from the Pittsburg operation on April 2, 1971.

NOTE: The 2.0 and 2.4 ratio sodium silicates were corrected for moisture content and tested on an equivalent anhydrous basis. CRYSTAMET was tested as the hydrated material. The oral toxicity values for CRYSTAMET were corrected for the moisture content and the figures represent the equivalent anhydrous material.

IV. Procedures

A. Acute Rat Oral

The test procedure employed is in accordance with the procedure described in the Code of Federal Regulations (Part 191.1, Chap. I, Title 21) for evaluating highly toxic substances.

Male, Sprague Dawley, albino rats in the 200 gram weight range were used for test purposes. The test material was administered as a 20% solution in water and at the maximum use concentration in single doses by means of a stomach tube. Five animals were used for each dose level. Test animals were fasted for 24 hours prior to treatment. The animals were observed for 14 days after treatment for mortalities and signs of toxicity. All mortalities and the 14-day survivors of the highest test levels were autopsied for gross pathological observation.

B. Acute Rabbit Dermal

New Zealand white rabbits in the 1.6-2.1 kg weight range were utilized in the study. Four animals were used for each dose level. The test material was applied neat to the closely clipped intact abdominal skin under waxed paper or rubber dental damming. The trunk was then wrapped with gauze and adhesive tape binder. The exposure period was 24 hours. Following this, the binders were removed and any residual chemical removed by washing the trunk of the animal thoroughly with a warm soap solution. The animals were observed 14 days for mortalities and signs of toxicity.

C. Skin Irritation Index, Draize Dermal

The Draize Dermal procedure was followed as outlined in the Code of Federal Regulations (Part 191.11, Chap. 1, Title 21) for evalutaing hazardous substances. The test procedure is designed to determine whether a chemical is a primary skin irritant, ie., capable of initiating an extreme tissue reaction or skin inflammation to an insult or injury. The inflammatory process may vary from a barely perceptible hyperemia, to edema formation and vesiculation, and finally to an intense suppurative process. Irritation itself is not directly measured, but the result or consequence of irritation, that is, the injury reaction following irritation.

The Draize Dermal test is further discussed in Appendix A.

D. Acute Eye Irritation

The procedure employed is in accordance with the test for eye irritants outlined in the Code of Federal Regulations (Part 191.12, Chap. 1, Title 21) for evaluating hazardous substances.

Toxicity Test	Sodium Disilicate 2.0 Ratio	Sodium Disilicate 2.4 Ratio	Sodium Tripoly-phosphate	CRYSTAMET(a)
Acute male rat oral LD_{50}, mg/kg:	1,960	2,710	5,010	847
Acute rabbit dermal LD_{50}, mg/kg:	> 4,640	> 4,640	> 4,640	---
Draize Dermal Score and Skin Irritation Classification	5.9, severe irritant	4.12, moderate irritant	4.0, moderate irritant	8.0, corrosive
Acute eye Irritation Classification	corrosive	severe irritant, remissible	nonirritant	corrosive nonremissible

(a) Refer to toxicology Laboratory Report T-1673, Western Research Center

Six New Zealand rabbits in the 1.6-2.1 kg weight range were used as the test animals. Ten mg or 0.1 ml of the test material was placed in one eye of each animal by gently pulling the lower lid away from the eyeball to form a cup into which the test material is dropped. The lids were gently held together for one second and the animal released. The other eye, remaining untreated, served as the control. The eyes were observed at 24, 48 and 72 hours following treatment and scored for irritation properties.

Eye irritation was determined according to the method outlined in the "Illustrated Guide for Grading Eye Irritation by Hazardous Substances." A total score of 110 is possible. A non-irritant must have a score of 10 or less. If, at the end of 72 hours ocular damage appears to be remissible (reversible), the animal is observed for an additional 4-7 days before final scoring is possible.

V. Results

A. Acute Rat Orals

1. Mortality

	Dose Level, mg/kg			
	464	1000	2150	4640
Sodium silicate 2.0	0/5	1/5	3/5	4/5
Sodium silicate 2.4	0/5	0/5	1/5	5/5
Sodium tripolyphosphate	0/5	0/5	0/5	2/5
CRYSTAMET	0/5	0/5	5/5	5/5

2. Signs of Toxicity

No apparent signs of toxicity were produced by the 464 mg/kg dose levels. Animals treated with the 2.0 and 2.4 ratio silicates at the 1,000 and 2,150 mg/kg dose levels showed signs of gasping, dyspnea and acute depression. The 4,640 mg/kg dose levels of all four test compounds produced acute depression, nasal discharge, dyspnea and gasping.

3. Gross Pathology

All mortalities exhibited gross gastrointestinal hemorrhage with congestion of the kidneys, adrenals, liver, lungs and heart. The survivors will be necropsied following the 14 day observation period.

B. Acute Rabbit Dermals

1. Mortality

	Dose Level, 4,640 mg/kg
2.0 Ratio sodium silicate	0/4
2.4 Ratio sodium silicate 2.4	0/4
Sodium tripolyphosphate	0/4

2. Signs of Toxicity

No apparent signs of toxicity were observed in any of the test animals.

3. Local Effects

The 2.0 and 2.4 Ratio sodium silicates produced severe erythema and edema. Sodium tripolyphosphate produced moderate erythema.

C. Skin Irritation (Draize) Dermal

See charts preceeding Appendix A.

D. Acute Eye Irritation, Rabbits

1. 2.0 Ratio Sodium Silicate -- produced corneal opacity with scar tissue formation in four of six test rabbits, the remaining two exhibited severe iritis and conjunctivitis. 2.0 ratio silicate is corrosive to the eye.

2. 2.4 Ratio Sodium Silicate -- produced conjunctivitis, moderate iritis with two of six test rabbits exhibiting slight corneal opacity of a remissible nature. 2.4 ratio silicate is a severe eye irritant.

3. Sodium Tripolyphosphate - anhydrous -- produced moderate to severe conjunctivitis in two of six test rabbits. The remaining four test rabbits exhibited no signs of irritation during the 72 hour observation period. Sodium tripolyphosphate is non-irritating to the eyes.

4. CRYSTAMET -- corrosive to the eye. Total destruction of eye of test animals was observed.

CONFIDENTIAL

Work done by: C. Bullock
A. Hall
J. Saylor

Submitted by C. H. Bullock
C. H. Bullock

Approved by F. X. Kamienski
F. X. Kamienski

CHB:FXK:ea

SODIUM SILICATE 2.0 RATIO RABBIT NO.

Expos. Time Hrs.		1M Score	2M Score	3M Score	19F Score	20F Score	21F Score	Means
	ERYTHEMA							
24	Intact	2	2	2	3	2	2	2.17
72	Intact	4	3	4	4	4	4	3.83
24	Abraded	4	4	4	4	4	4	4.00
72	Abraded	4	4	4	4	4	4	4.00
							SUBTOTAL	14.00
	EDEMA							
24	Intact	2	3	1	1	1	1	1.50
72	Intact	0	0	0	0	0	0	0.00
24	Abraded	4	4	4	4	4	4	4.00
72	Abraded	4	4	4	4	4	4	4.00
							SUBTOTAL	9.50
							TOTAL SCORE	23.50
							(TOTAL /4) PRIM. IRIT. INDEX	5.9
SEVERE SKIN IRRITANT								

SODIUM SILICATE 2.4 RATIO RABBIT NO.

Expos. Time Hrs.		4M Score	5M Score	6M Score	22F Score	23F Score	24F Score	Means
	ERYTHEMA							
24	Intact	2	2	1	2	2	2	1.83
72	Intact	0	0	0	0	0	0	0.00
24	Abraded	2	4	4	4	4	4	3.66
72	Abraded	0	4	4	4	4	4	3.33
							SUBTOTAL	
	EDEMA							
24	Intact	2	1	0	1	1	0	0.83
72	Intact	0	0	0	0	0	0	0.00
24	Abraded	2	4	3	3	3	3	3.00
72	Abraded	0	4	4	4	4	4	3.83
							SUBTOTAL	7.66
							TOTAL SCORE	16.48
							(TOTAL /4) PRIM. IRIT. INDEX	4.12
MODERATE SKIN IRRITANT								

CONFIDENTIAL

SODIUM TRIPOLYPHOSPHATE — RABBIT NO.

Expos. Time Hrs.		7M Score	8M Score	9M Score	25F Score	26F Score	27F Score	Means
	ERYTHEMA							
24	Intact	1	0	1	0	0	0	0.33
72	Intact	0	0	0	0	0	0	0.00
24	Abraded	4	4	4	4	4	4	4.00
72	Abraded	4	4	4	4	4	4	4.00
							SUBTOTAL	8.33
	EDEMA							
24	Intact	0	0	0	0	0	0	0.00
72	Intact	0	0	0	0	0	0	0.00
24	Abraded	3	4	4	3	4	4	3.66
72	Abraded	4	4	4	4	4	4	4.00
							SUBTOTAL	7.66
							TOTAL SCORE	15.99
							(TOTAL /4) PRIM. IRIT. INDEX	4.00

MODERATE SKIN IRRITANT

APPENDIX A

DESCRIPTION OF THE DRAIZE DERMAL SKIN IRRITATION TEST

The Draize dermal method of testing primary irritant substances is described in the Code of Federal Regulations under the Federal Hazardous Substances Labeling Act, Part 191.11, Chapter 1, Title 21 as follows:

Primary irritation to the skin is measured by a patch-test technique on the abraded and intact skin of the albino rabbit, clipped free of hair. A minimum of six subjects are used in abraded and intact skin tests. Introduce under a square patch such as surgical gauze measuring 1 inch x 1 inch, two single layers thick, 0.5 milliliter (in case of liquids) or 0.5 gram (in the case of solids and semisolids) of the test substance. Dissolve solids in an appropriate solvent and apply the solution as for liquids. The animals are immobilized with patches secured in place by adhesive tape. The entire trunk of the animal is then wrapped with an impervious material such as rubberized cloth for the 24-hour period of exposure. This material aids in maintaining the test patches in position and retards the evaporation of volatile substances. After 24 hours of exposure, the patches are removed and the resulting reactions are evaluated on the basis of the designated values in the following table:

Evaluation of skin reactions	*Value* [1]
Erythema and eschar formation:	
No erythema	0
Very slight erythema (barely perceptible)	1
Well-defined erythema	2
Moderate to severe erythema	3
Severe erythema (beet redness) to slight eschar formation (injuries in depth)	4
Edema formation:	
No edema	0
Very slight edema (barely perceptible)	1
Slight edema (edges of area well defined by definite raising)	2
Moderate edema (raised approximately 1 millimeter)	3
Severe edema (raised more than 1 millimeter and extending beyond the area of exposure)	4

[1] The "value" recorded for each reading is the average value of the six or more animals subject to the test.

Readings are again made at the end of a total of 72 hours (48 hours after the first reading). An equal number of exposures are made on areas of skin that have been previously abraded. The abrasions are minor incisions through the stratum corneum, but not sufficiently deep to disturb the derma or to produce bleeding. Evaluate the reactions of the abraded skin at 24 hours and 72 hours, as described in this paragraph. Add the values for erythema and Eschar formation at 24 hours and at 72 hours for intact skin to the values on abraded skin at 24 hours and at 72 hours (four values). Similarly, add the values for edema formation at 24 hours and at 72 hours for intact and abraded skin (four values). The total of the eight values is divided by four to give the primary irritation score. Example:

	Exposure time	Exposure unit
Erythema and eschar formation:	*Hours*	*Value*
Intact skin	24	2
Do	72	1
Abraded skin	24	3
Do	72	2
Subtotal		8
Edema formation:		
Intact skin	24	0
Do	72	1
Abraded skin	24	1
Do	72	2
Subtotal		4
Total		12

Primary irritation score is 12÷4=3.

Compounds producing combined averages (primary irritation indexes) of 2 or less are only mildly irritating; whereas those with indexes from 2 to 5 are moderate irritants, and those with scores above 5 are considered severe or primary irritants.

1,960 (978 – 3,920) MG/KG

Western Research Cen
Toxicology Section
T-1715-1

ACUTE ORAL SHEET ♂

Date 5-5-71

CONFIDENTIAL

Material Sodium disil Batch # 2.0 RAT

Dose 4647 MG/KG

Concentration 200 MG/ML – 20 % (HC

Factor 2.332 -> 2.84

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	0.39
2		
3		
4		
5		

34 P

3 S

Observations:

5-6 O/S N

6-2 – O/S – N – SAC + N

Western Research Cen
Toxicology Section

7-1715-7

ACUTE ORAL SHEET ♂

Date 5-5-71

CONFIDENTIAL

Material Sodium disil Batch # 2. ORATI

Dose 1,000 MG/KG

Concentration 200 MG/ML - 20 % (H_2

Factor 5. → ~~5~~ 5.5 6.

Rat No.	Body Weight (g)	Total Dose (ml)
1	170.	0.94
2		
3		
4		
5		

3/10 P

3/15 P

Observations:

6 - ,

5-6- 0/5 - 0 - NO - GASPING.

5-7 - 1/5 - 0 - SURVIVORS IMPROVED.

6-2 - 1/5 . . - SAC + N.

Western Research Cen
Toxicology Section
T-1715-1

CONFIDENTIAL

ACUTE ORAL SHEET ♂

Date 5-5-71

Material Sodium dis.l Batch # 2.0 RATIO

Dose 2,150 mg/kg

Concentration 200 mg/kg - 20% (H_2

Factor 10:7 -> 12.7

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	2.0
2		
3		
4		
5		

2 3/5

2 1/2

Observations:

6 —

5-6- 2/5 DEAD

5-7 - 3/5 DEAD -

6-2 SAC. + N

Western Research
Toxicology Section

T-1715-1

ACUTE ORAL SHEET ♂

Date 5-5-71

Material Sodium disil CONFIDENTIAL Batch # 2.0 RAT

Dose 4,640 MG/KG +910 CORRECTED FOR H_2O

Concentration 200 MG/ML - 20 % (H_2

Factor 23.2 -> 23.4

Rat No.	Body Weight (g)	Total Dose (ml)
1	170 (AVE)	4.7
2		
3		
4		
5		

Observations:

12 3/4 - 0/5 - DEPRESSION - GASPING - OPAL 2 NASAL - DISC.

5-6 8 3/4 - 4/5 DEAD

6-2 - 4/5 " - SAC +a

2,710 (2,000 - 3,690) mg/kg

Western Research Cer
Toxicology Section
T-1715-2

ACUTE ORAL SHEET ♂

Date 5-5-71

CONFIDENTIAL

Material Sodium disil Batch # 2.4 RA

Dose 464 mg/kg

Concentration 200 mg/ml - 20% (H2

Factor 2.32 -> 2.34

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	0.39
2		
3		
4		
5		

Observations:

5-6 0/5 N

6-2 - 0/5 SFC + N

Western Research Ce
Toxicology Section

ACUTE ORAL SHEET ♂ T-1715-2

Date 5-5-71

Material Sodium disil CONFIDENTIAL Batch # 2.4 RAT

Dose 1,000 MG/KG

Concentration 200 MG/ML - 20 % (H_2

Factor 5 → ~~5.5~~ 6

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	0.94
2		
3		
4		
5		

3 1/6

3 19/20

Observations:

5-6- 0/5 0 — GASPING - DEC

6-2 0/5 —

Western Research Cer
Toxicology Section

CONFIDENTIAL

T-1715-2

ACUTE ORAL SHEET ♂

Date 5-5-71

Material Sodium disil Batch # 2.4 RAT

Dose 2,150 MG/KG

Concentration 200 MG/ML - 20% (H_2

Factor 10.7 -> 12.7

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	2.0
2		
3		
4		
5		

3 42/50

3 46/50

Observations:

5-6- 1/5 DEAD -

6-2 - " ———

CONFIDENTIAL

Western Research Lab.
Toxicology Section

T-1715-2

ACUTE ORAL SHEET ♂

Date 5-5-71

Material Sodium disil Batch #2.4 RAT

Dose 4,640 MG/KG +910 CORRECTED FOR H_2O

Concentration 200 MG/ML - 20 % (H_2O

Factor 23.2 → 29 #

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	4.7
2		
3		
4		
5		

11 ½

11 ½

Observations:

12 30 - 0/5 - DEPRESSION - GASPING - ETC.

2 30 - 1/5 DEAD - G.I. HEMO - CONGESTION.

3 40 2/5 " —

5-6 - 8 40 4/5 "

2 00 5/5 "

5,010 (3,440 - 7,300) MG/KG

Western Research Cer
Toxicology Section
T-1715-3

ACUTE ORAL SHEET ♂

CONFIDENTIAL

Date 5-5-71

Material Sodium disil Batch # ANHYDRO

Dose 464 MG/KG

Concentration 200 MG/ML - 20% (1/2

Factor 2.32

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	0.43
2		
3		
4		
5		

35? P

400 P

Observations:

5-6 0/5 N

6-2 - 0/5 SAC + N

Western Research Ce
Toxicology Section

T-1715-3

ACUTE ORAL SHEET #7

Date 5-5-71

Material Sodium disil CONFIDENTIAL Batch # ANHYDRO

Dose 1,000 MG/KG

Concentration 200 MG/ML - 20 % (H_2

Factor 5

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	0.85
2		
3		
4		
5		

3 20 %

3 24 %

Observations:

5-6- 0/5 0 - NORMAL

6-2 - 0/5 - SAC ok

Western Research Co.
Toxicology Section
T-1715-3

ACUTE ORAL SHEET

CONFIDENTIAL

Date 5-5-71

Material Sodium disil Batch # ANHYDROU

Dose 2,150 MG/KG

Concentration 200 MG/ML - 20% (H2

Factor 10.7

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	1.8
2		
3		
4		
5		

2 4/5

2 5/5

Observations:

5-6- 5/5 DEAD - SL. DEP.

6-2 - —

Western Research Co.
Toxicology Section

T-1715-3

ACUTE ORAL SHEET ♂

CONFIDENTIAL

Date 5-5-71

Material Sodium disil Batch # ANHYDROUS

Dose 4,640 mg/kg

Concentration 200 mg/ml 20 % (H_2O)

Factor 23.2

Rat No.	Body Weight (g)	Total Dose (ml)
1	170	9.0
2		
3		
4		
5		

11 2Y

11 3/12

Observations:

12 30 p - 0/5 - depression, gasping - etc

3 40 p 2/5 —

5-6 — 3/5 —

6-2 SAC +U

CONFIDENTIAL

DERMAL TOXICITY RABBIT

Operator CB, AH, JS Starting Date 5-10-71 T No. 1715-

Compound Sodium disil. 2.0 RATIO

Concentration AS RECD Dosage 0.5 cc/pt

Solvent WATER TO MOISTEN PH —

Experimental Design F.R. 121.11

Rab. No.	Body Wt.Kg.	Time Dosed	Expos. Time Hrs.		RABBIT NO. 1M	2M	3M	19F	20F	21F	
				ERYTHEMA	Score	Score	Score	Score	Score	Score	Mea
1	2000	1pm	24	Intact	2	2	2	3	2	2	2.1
2	2100	1pm	72	Intact	4	3	4	4	4	4	3.8
3	2300	1pm	24	Abraded	4	4	4	4	4	4	4.0
19	2100	1pm	72	Abraded	4	4	4	4	4	4	4.0
20	2000	1pm								SUBTOTAL	18.0
21	2200	1pm		EDEMA							
	Term Wt.Kg.		24	Intact	2	3	1	1	1	1	1.3
			72	Intact	0	0	0	0	0	0	0.0
			24	Abraded	4	4	4	4	4	4	4.0
			72	Abraded	4	4	4	4	4	4	4.0
										SUBTOTAL	9.5
										TOTAL SCORE	27.5
										(TOTAL /4) PRIM. IRIT. INDEX	5.9
										PRIMARY SKIN IRRITANT.	

Acute DERMAL TOXICITY. Rabbit IND# T-1715-1

OPERATOR DS, RRC, CB STARTING DATE 5-6-71 RABBIT NO.

COMPOUND Sodium Silicate - Ratio 2.0

CONCENTRATION As received CONFIDENTIAL DOSAGE 4640 mg/Kg

SOLVENT None pH

EXPERIMENTAL DESIGN

THE TEST MATERIAL WAS APPLIED TO THE CLOSELY CLIPPED, INTACT ABDOMINAL SKIN UNDER NON-OCCLUSIVE PAPER BACKING. THE TRUNK WAS THEN WITH A GAUZE AND ADHESIVE TAPE BINDER. THE EXPOSURE PERIOD WAS 24 HOURS. THE OBSERVATION PERIOD WAS 14 DAYS.

* Compound melts under wet paper wrapping into a hardened paste

Lab #	DATE	WEEK NO.	APL. NO.	WT. GMS	QUAN	TIME	AREA EXPOSED	ERY.	ED.	A	D	No	C	F	S T.
3	5-6		Y1	2400	~~11.2~~ 12.2	10½	Abd								
	5-7	1	Unwrap			10½		4+	4+						Normal
	5-21					SD	Sacrificed								
4	5-6		Y1	2260	~~10.5~~ 10.5	10½	Abd								
	5-7	1	Unwrap			10½		4+	4+						Normal
	5-21					SD	Sacrificed								
21	5-6		Y1	2050	~~9.5~~ 10.4	10½	Abd								
	5-7	1	Unwrap			10½		4+	4+						Normal
	5-21					SD	Sacrificed								
22	5-6		Y1	2500	~~11.6~~ 12.6	10½	Abd								
	5-7	1	Unwrap			10½		4+	4+						Normal
	5-21					SD	Sacrificed								

CONFIDENTIAL

DERMAL TOXICITY Rabbit

Operator CB, AH, JS Starting Date 5-10-71 T No. 1715-2

Compound Sodium disil 2.4 RATIO

Concentration AS RECD Dosage 0.5 cc per

Solvent WATER TO MOISTEN PH —

Experimental Design F.R. 121, II

Rab. No.	Body Wt. Kg.	Time Dosed	Expos. Time Hrs.		RABBIT NO. 4M Score	5M Score	6M Score	22F Score	23F Score	24F Score	Mea
4	2000	150 P	24	Intact	2	2	1	2	2	2	1.8
5	2100	153 P	72	Intact	0	0	0	0	0	0	0.0
6	2300	155 P	24	Abraded	2	4	4	4	4	4	3.6
22	2300	158 P	72	Abraded	0	4	4	4	4	4	3.3
23	2000	203 P								SUBTOTAL	8.8
24	2200	206 P		EDEMA							
	Term Wt. Kg.		24	Intact	2	1	0	1	1	0	0.
			72	Intact	0	0	0	0	0	0	0.0
			24	Abraded	2	4	3	3	3	3	3.0
			72	Abraded	0	4	4	4	4	4	3.8
										SUBTOTAL	7.66
										TOTAL SCORE	16.48
										(TOTAL /4) PRIM. IRIT. INDEX	4.12
										MODERATE IRRITANT	

Acute DERMAL TOXICITY. Rabbit NH T-1715-2

OPERATOR BJ, GA, CB STARTING DATE 5-6-71 RABBIT NO.

COMPOUND Sodium Silicate - Ratio 2.4

CONCENTRATION As received CONFIDENTIAL DOSAGE 4640 mg/kg

SOLVENT None pH

EXPERIMENTAL DESIGN

THE TEST MATERIAL WAS APPLIED TO THE CLOSELY CLIPPED, INTACT ABDOMINAL SKIN UNDER NON-OCCLUSIVE GAUZE PATCH. THE TRUNK WAS THEN WRAPPED WITH ADHESIVE TAPE AND ADHESIVE TAPE REMOVED. THE EXPOSURE PERIOD WAS 24 HOURS. THE OBSERVATION PERIOD WAS 14 DAYS.

Rabbit	DATE	WEEK NO.	APL. NO.	WT. GMS	QUAN	TIME	AREA EXPOSED	ERY.	ED.	A	D	No	C	F	S T.
2	5-6		Y1	2580	10.2	11 AM	Abd								
5	5-7	Unwrapp				1 PM		4+	4+						Normal
	5-21					3 PM	Sacrificed								
3	5-6		Y1	2120	10.0	11 AM	Abd								
6	5-7	Unwrapp				1 PM		4+	4+						Normal
	5-21					3 PM	Sacrificed								
9	5-6		Y1	2350	11.9	11 AM	Abd								
23	5-7	Unwrapp				11 AM		4+	4+						Normal
	5-21					3 PM	Sacrificed								
4	5-6		Y1	2320	11.7	11 AM	Abd								
24	5-7	Unwrapp				11 AM		4+	4+						Normal
	5-21					3 PM	Sacrificed								

CONFIDENTIAL

DERMAL TOXICITY RABBIT

Operator CB, AH, JS Starting Date 5-10-71 T No. 1715-3

Compound Sodium disil ANHYDROUS

Concentration AS RECD Dosage 0.5 cc per kg

Solvent WATER TO MOISTEN PH

Experimental Design F.R. 121.11

Rab. No.	Body Wt. Kg.	Time Dosed	Expos. Time Hrs.		RABBIT NO. 7M Score	8M Score	9M Score	25F Score	26F Score	27F Score	Mea
7	2000	2PM	24	Intact	1	0	1	0	0	0	0.3
8	2100	2PM	72	Intact	0	0	0	0	0	0	0.0
9	2100	2PM	24	Abraded	4	4	4	4	4	4	4.0
25	1900	2PM	72	Abraded	4	4	4	4	4	4	4.0
26	2000	2PM								SUBTOTAL	8.3
27	2000	2PM		EDEMA							
	Term Wt. Kg.		24	Intact	0	0	0	0	0	0	0.0
			72	Intact	0	0	0	0	0	0	0.0
			24	Abraded	3	4	4	3	4	4	3.6
			72	Abraded	4	4	4	4	4	4	4.0
										SUBTOTAL	7.66
										TOTAL SCORE	15.9
										(TOTAL /4) PRIM. IRIT. INDEX	4.00
										MODERATE SKIN IRRITANT	

Acute DERMAL TOXICITY Rabbit T-015-3

OPERATOR B, GH, CS STARTING DATE 5-6-71 RABBIT NO.

COMPOUND Sodium Tripolyphosphate - Anhydrous

CONCENTRATION As rec'd DOSAGE 4640 mg/kg

SOLVENT None

CONFIDENTIAL

pH

EXPERIMENTAL DESIGN

THE TEST MATERIAL WAS ... APPLIED TO THE ... CLIPPED, INTACT ABDOMINAL SKIN UNDER ... PAPER BACKING. THE TRUNK WAS THEN ... SNUGLY FITTED. THE EXPOSURE PERIOD WAS 24 HOURS. THE OBSERVATION PERIOD WAS 14 DAYS.

Calf #	DATE	WEEK NO.	APL. NO.	WT. GMS	QUAN	TIME	AREA EXPOSED	ERY.	ED.	A	D	No	C	F	S T.
21	5-6		Y1	1860	8.6	11:45	Abd								
	5-7	Unwrapp				1:30		2+	-						Normal
17	5-21					3:30		Sacrificed							
21	5-6		Y1	1730	8.0	11:50	Abd								
	5-7	Unwrapp				11:45		1+	-						Normal
18	5-21					3:30		Sacrificed							
♀	5-6		Y1	2150	10.0	11:55	Abd								
	5-7	Unwrapp				11:50		1+	-						Normal
35	5-21					3:30		Sacrificed							
♀	5-6		Y1	1950	9.1	12:00	Abd								
	5-7	Unwrapp				11:55		1+	-						Normal
36	5-21					3:30		Sacrificed							

CONFIDENTIAL

EYE TOXICITY_____ T No._____

Operator_____ Starting Date_____ Rabbit No._____

Compound_____

Concentration_____ Dosage_____

Solvent_____ PH_____

Experimental Design_____

Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea			Iris		Conjunctivae				Tot. Score
				Opac	Area	Score	Irit.	Score	Ery.	Ed.	Dis.	Sc.	
S-10		1 3C P											
S-11			1 3C P	Obscured			—						20+
S-12			1 3C P		"	"	—						20+
S-13			8 CC D		"	"	—						20+
							SCAR						
S-10		1 3C P											
S-11			1 3C P	Obscured			—						20+
S-12			1 3C P		"	"	—						20+
S-13			8 CC D	0	0	0	2	10	3	2	2	14	24
S-10		1 4C P											
S-11			1 4C P	4	4	80	—	—	3	3	3	18	98
S-12			1 3C P	Obscured			—						20+
S-13			8 CC D	"		"	—						20+
						SCAR							

CONFIDENTIAL

EYE TOXICITY _____ T No. _____

Operator _____ Starting Date _____ Rabbit No. _____

Compound _____

Concentration _____ Dosage _____

Solvent _____ PH _____

Experimental Design _____

	Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea Opac	Cornea Area	Cornea Score	Iris Irit.	Iris Score	Conjunctivae Ery.	Conjunctivae Ed.	Conjunctivae Dis.	Conjunctivae Sc.	Tot. Score
	5-10		2 PM											
	5-11			2 PM	0	0	0	0	0	3	1	2	12	12
2	5-12			1 PM	0	0	0	1	5	2	1	1	8	13
	5-13			8 AM	0	0	0	0	0	2	1	0	6	6
	5-10		2 PM											
	5-11			2 PM	0	0	0	0	0	3	0	0	6	6
3	5-12			1 PM	0	0	0	2	10	3	0	1	8	18
	5-13			8 AM	0	0	0	1	5	2	0	1	6	11
	5-10		2 PM											
	5-11			2 PM	Obscured									20T
	5-12			1 PM	1	4	20	2	10	3	3	2	16	46
4	5-13			8 AM	1	4	20	2	10	3	3	3	18	48

CONFIDENTIAL

EYE TOXICITY _____ T No. _____

Operator _____ Starting Date _____ Rabbit No. _____

Compound _____

Concentration _____ Dosage _____

Solvent _____ PH _____

Experimental Design _____

Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea Opac	Cornea Area	Cornea Score	Iris Irit.	Iris Score	Conjunctivae Ery.	Conjunctivae Ed.	Conjunctivae Dis.	Conjunctivae Sc.	Tot. Score
5-10		2 P											
5-11			2 P	0	—								0
5-12			1 P	0	—								0
5-13			8	0	—								0
5-10		2 P											
5-11			2 P	0	—								0
5-12			1 P	0	—								0
5-13			8	0	—								0
5-10		2 P											
5-11			2 P	0	0	0	0	0	3	1	3	4	14
5-12			1 P	0	0	0	0	0	1	1	1	6	6
5-13			8	0	—								0

CONFIDENTIAL

EYE TOXICITY RABBIT T No. 1715-1

Operator CD, AH, DS Starting Date 5-10-71 Rabbit No.

Compound Sodium disil 2.0 RATIO

Concentration AS REC'd Dosage 10 mg

Solvent NONE PH

Experimental Design F.R 121.12

	Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea Opac.	Cornea Area	Cornea Score	Iris Irit.	Iris Score	Conjunctivae Ery.	Conjunctivae Ed.	Conjunctivae Dis.	Conjunctivae Sc.	Tot. Score
1	5-10		1:30 P	1:30 P										
	5-11			1:25 P	Obscured									20+
	5-12			1:30 P	"		"							20+
	5-13			8:00 A	"		"							20+
						SCAR								
2	5-10		1:29 P	1:30 P										
	5-11			1:30 P	Obscured									20+
	5-12			1:30 P		"	"							20+
	5-13			8:00 A		"	"							20+
					SCAR									
3	5-10		1:33 P	1:29 P										
	5-11			1:29 P	0	0	0	0	0	3	2	3	16	~~22~~ 16
	5-12			1:30 P	0	0	0	0	0	3	3	2	16	16
	5-B			8:00 A	0	0	0	0	0	2	1	1	8	8

CONFIDENTIAL

EYE TOXICITY RABBIT T No. 1215-2

Operator CB, AH, JS Starting Date 5-10-71 Rabbit No.

Compound Sodium disil 2.4 RATIO

Concentration AS REC'd Dosage @ 10 mg

Solvent NONE PH —

Experimental Design F.R. 121.12

Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea Opac	Cornea Area	Cornea Score	Iris Irit.	Iris Score	Conjunctivae Ery.	Conjunctivae Ed.	Conjunctivae Dis.	Conjunctivae Sc.	Tot. Score
5-10		1:30 p	2 cc p										
5-11			2 cc p	1	4	20	2	10	3	3	3	18	48
5-12			1:30 p	1	4	20	2	10	3	2	2	14	44
5-15			8 cc a	0	0	0	0	0	1	1	2	8	8
5-10		1:53 p	3 cc p										
5-11			2 cc p	Obscured									20+
5-12			1:53 p	0	0	0	1	5	2	3	1	12	17
5-13			8 cc a	0	0	0	0	0	2	3	3	16	16
5-10		1:53 p	2 cc p										
5-11			2 cc p	0	0	0	1	5	4	3	3	20	25
5-12			1:36 p	0	0	0	1	5	3	3	3	18	23
5-13			8 cc a	0	0	0	0	0	2	1	3	12	12

CONFIDENTIAL

EYE TOXICITY RABBIT T No. 1715-3

Operator CD, AH, JS Starting Date 5-10-71 Rabbit No.

Compound Sodium disil ANHYDROUS

Concentration ~~AS RECD~~ AS RECD Dosage 10 mg

Solvent ~~OS~~ NONE PH

Experimental Design

Date	Body Wt. Kg	Time Dosed	Time Obs. Hr.	Cornea Opac	Cornea Area	Cornea Score	Iris Irit.	Iris Score	Conjunctivae Ery.	Conjunctivae Ed.	Conjunctivae Dis.	Conjunctivae Sc.	Tot. Score
5-10		2 09 P											
5-11			2 09 P	0	0	0	0	0	3	1	2	12	12
5-12			1 35 P	0	0	0	0	0	1	1	1	6	6
5-13			8 00 A	0	0	0	0	0	0	0	1	2	2
5-10		1 45 P											
5-11			2 13 P	0	—	—	—	—	—	—	—	—	0
5-12			1 35 P	0	0	0	0	0	0	0	1	2	2
5-13			8 00 A	0	0	0	0	0	0	0	1	2	2
5-10		1 45 P											
5-11			2 16 P	0	—	—	—	—	—	—	—	—	0
5-12			1 35 P	0	—	—	—	—	—	—	—	—	0
5-13			8 00 A	0	—	—	—	—	—	—	—	—	0

Triage of 8(e) Submissions

Date sent to triage: 2/5/96

NON-CAP (CAP)

Submission number: 12611 A

TSCA Inventory: (Y) N (D)

Study type (circle appropriate):

Group 1 - Dick Clements (1 copy total)

ECO AQUATO

Group 2 - Ernie Falke (1 copy total)

(ATOX) SBTOX SEN w/NEUR

Group 3 - Elizabeth Margosches (1 copy each)

STOX CTOX EPI RTOX GTOX

STOX/ONCO CTOX/ONCO IMMUNO CYTO NEUR

Other (FATE, EXPO, MET, etc.): _____

Notes:

THIS IS THE ORIGINAL 8(e) SUBMISSION; PLEASE REFILE AFTER TRIAGE DATABASE ENTRY

For Contractor Use Only

entire document: (0) 1 2 **pages** 1,2 **pages** 1,2, tab

Notes: 2-sided.

Contractor reviewer : LPS **Date:** 5/11/95

CECATS\TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA:
Submission # 8EHQ-1092-12611 SEQ. A

TYPE: INT. SUPP FLWP

SUBMITTER NAME: Rhone-Poulenc Inc

INFORMATION REQUESTED: FLWP DATE:
0501 NO INFO REQUESTED
0502 INFO REQUESTED (TECH)
0503 INFO REQUESTED (VOL ACTIONS)
0504 INFO REQUESTED (REPORTING RATIONALE)
DISPOSITION:
(0670) REFER TO CHEMICAL SCREENING
(0678) CAP NOTICE

VOLUNTARY ACTIONS:
(0401) NO ACTION REPORTED
0402 STUDIES PLANNED/UNDERWAY
0403 NOTIFICATION OF WORKER/CITIZENS
0404 LABEL/MSDS CHANGES
0405 PROCESS/HANDLING CHANGES
0406 APP./USE DISCONTINUED
0407 PRODUCTION DISCONTINUED
0408 CONFIDENTIAL

SUB. DATE: 10/23/92 OTS DATE: 10/23/92 CSRAD DATE: 03/08/95

CHEMICAL NAME: ~~Grade F Sodium Tripolyphosphate~~ CAS#

~~None~~
7758-29-4

Silicic acid, disodium salt, pentahydrate 10213-77-3 → Crystamet
1344-09-8

INFORMATION TYPE:		P F C	INFORMATION TYPE:		P F C	INFORMATION TYPE:		P F C
0201	ONCO (HUMAN)	01 02 04	0216	EPI/CLIN	01 02 04	0241	IMMUNO (ANIMAL)	01 02 04
0202	ONCO (ANIMAL)	01 02 04	0217	HUMAN EXPOS (PROD CONTAM)	01 02 04	0242	IMMUNO (HUMAN)	01 02 04
0203	CELL TRANS (IN VITRO)	01 02 04	0218	HUMAN EXPOS (ACCIDENTAL)	01 02 04	(0243)	CHEM/PHYS PROP	01 02 04
0204	MUTA (IN VITRO)	01 02 04	0219	HUMAN EXPOS (MONITORING)	01 02 04	0244	CLASTO (IN VITRO)	01 02 04
0205	MUTA (IN VIVO)	01 02 04	0220	ECO/AQUA TOX	01 02 04	0245	CLASTO (ANIMAL)	01 02 04
0206	REPRO/TERATO (HUMAN)	01 02 04	0221	ENV. OCCC/REL/FATE	01 02 04	0246	CLASTO (HUMAN)	01 02 04
0207	REPRO/TERATO (ANIMAL)	01 02 04	0222	EMER INCI OF ENV CONTAM	01 02 04	0247	DNA DAM/REPAIR	01 02 04
0208	NEURO (HUMAN)	01 02 04	0223	RESPONSE REQEST DELAY	01 02 04	(0248)	PROD/USE/PROC	01 02 04
0209	NEURO (ANIMAL)	01 02 04	(0224)	PROD/COMP/CHEM ID	01 02 04	0251	MSDS	01 02 04
0210	ACUTE TOX. (HUMAN)	01 02 04	0225	REPORTING RATIONALE	01 02 04	0299	OTHER	01 02 04
0211	CHR. TOX. (HUMAN)	01 02 04	0226	CONFIDENTIAL	01 02 04			
(0212)	ACUTE TOX. (ANIMAL)	01 02 04	0227	ALLERG (HUMAN)	01 02 04			
0213	SUB ACUTE TOX (ANIMAL)	01 02 04	0228	ALLERG (ANIMAL)	01 02 04			
0214	SUB CHRONIC TOX (ANIMAL)	01 02 04	0239	METAB/PHARMACO (ANIMAL)	01 02 04			
0215	CHRONIC TOX (ANIMAL)	01 02 04	0240	METAB/PHARMACO (HUMAN)	01 02 04			

TRIAGE DATA: NON-CBI INVENTORY ONGOING REVIEW SPECIES TOXICOLOGICAL CONCERN: USE: PRODUCTION:

CAS SR
(YES) YES (DROP/REFER) RAT RBT LOW industrial cleaning
NO NO (CONTINUE) MED See attached Sheet Component
(IN TERMINI) REFER HIGH

COMMENTS

#12611A
Sodium Silicate
H

Ocular irritation is of high concern based on corrosive effects in rabbits exposed to the 2.0 ratio of test material to 19.5% water. Corneal opacity with scar tissue formation in 4/6, and severe iritis and conjunctivitis were reported.

M

Ocular irritation is of medium concern based on conjunctivitis, moderate iritis and slight corneal opacity (remissible) in rabbits exposed to the 2.4 ratio of test material to 19.5% water.

M

Dermal irritation is of medium concern based on severe erythema and moderate edema in rabbits exposed to the 2.0 ratio. Dermal irritation is of low concern based on well-defined erythema and very slight edema in rabbits exposed to the 2.4 ratio of test material to 19.5% water.

L

Acute oral toxicity is of low concern based on calculated LD_{50}'s of 1960 and 2710 mg/kg in rats for the 2.0 and 2.4 ratios, respectively, of test material to 19.5% water. Mortality and corresponding doses (mg/kg) were 0/5 (464), 1/5 (1000), 3/5 (2150) and 4/5 (4640) for the 2.0 ratio, and 0/5 (464, 1000), 1/5 (2150) and 5/5 (4640) for the 2.4 ratio. Gasping, dyspnea and acute depression were observed at ≥1000 mg/kg for both ratios. GI hemorrhage, congestion of the kidneys, adrenals, liver, lungs and heart were observed in the decedents.

L

Acute dermal toxicity is of low concern based on no mortality (0/4) in rabbits exposed to 4640 mg/kg at both the 2.0 and 2.4 ratios of test material to 19.5% water.

Crystamet
H

Dermal irritation is of high concern based on corrosive effects in rabbits.

H

Ocular irritation is of high concern based on corrosive, nonremissible effects in rabbits; total destruction of the eye was reported.

L

Acute oral toxicity is of low concern based on a calculated LD_{50} of 847 mg/kg in rats. Mortality

and corresponding doses (mg/kg) were 0/5 (464, 1000) and 5/5 (2150, 4640). Acute depression, dyspnea and gasping were observed at 4640 mg/kg, and GI hemorrhage, congestion of the kidneys, adrenals, liver, lungs and heart were observed in the decedents.

Sodium Tripolyphosphate
M

Ocular irritation is of medium concern based on moderate to severe conjunctivitis in 2/6 rabbits; the remaining 4 did not exhibit any irritation.

L

Acute oral toxicity is of low concern based on a calculated LD_{50} of 5010 mg/kg in rats. Mortality and corresponding doses (mg/kg) were 0/5 (464, 1000, 2150) and 2/5 (4640). Acute depression, dyspnea and gasping were observed at 4640 mg/kg, and GI hemorrhage, congestion of the kidneys, adrenals, liver, lungs and heart were observed in the decedents.

L

Acute dermal toxicity is of low concern based on no mortality (0/4) in rabbits exposed to 4640 mg/kg.

L

Dermal irritation is of low concern based on very slight erythema in 2/6 rabbits.